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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/066,693

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Yutaka Nakazawa

8013-1005

5640

466

7590

01/12/2005

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EXAMINER

NGUYEN, DANNY

ART UNIT

PAPER NUMBER

2836

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/066,693	<b>Applicant(s)</b> NAKAZAWA ET AL.	
	<b>Examiner</b> Danny Nguyen	<b>Art Unit</b> 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-6,9-11,14,15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,9-11,14,15 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1, 6, and 11 have been considered but are moot in view of the new ground(s) of rejection.
2. Claims 3, 7, 8, 12, 13, 16, and 18-20 are cancelled.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 4, 5 are rejected under 35 U.S.C. 102(a) as being anticipated by Tomiyama et al (USPN 6,053,953).

Regarding claim 1, Tomiyama discloses a secondary battery structure (it is known that the double layer capacitor structure is used create secondary battery. Thus, the secondary battery structure disclosed in fig. 1 of Tomiyama is considered as a double layer capacitor) comprises electrodes (1 and 2) which include activated carbon powder (such as carbon black, e.g. col. 5 and 6, lines 65-62), a binder for binding the activated carbon powder (col. 5, lines 59-61), an electrolytic solution (col. 3, lines 3-10), wherein an averaged diameter of the activated carbon powder is in the range of 5 micrometers to 13 micrometers (such as 0.02 to 10 micrometer, col. 6, lines 24-37), and a particle size

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distribution thereof is in the range of 2 micrometers to 20 micrometers (such as a particle size is in range from 0.1 to 50 micrometer, col. 8, lines 48-50).

Regarding claims 4, 5, Tomiyama discloses the binder that contains materials such as fluoro-polymer and polyvinylidene fluoride (e.g. col. 14, line 42-53).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 9-11, 14, 15, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomiyama et al in view of Fong et al (USPN 5,069,683), and Andelman (USPN 6,127,474).

Regarding claims 6, 11, and 17, Tomiyama discloses an electric double layer capacitor (see fig. 1) comprises a separator (3), a pair of electrodes (1 and 2) separated by the separator, the electrodes including activated carbon powder (such as carbon black, e.g. col. 5 and 6, lines 65-62) and a binder binding the powder (col. 5, lines 59-61), a pair of collectors (col. 16 and 17, lines 63-8) separated by the electrodes, wherein an averaged diameter of the activated carbon powder is in the range of 5 micrometers to 13 micrometers (such as 0.02 to 10 micrometer, col. 6, lines 24-37), and a particle size distribution thereof is in the range of 2 micrometers to 20 micrometers (such as a particle size is in range

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from 0.1 to 50 micrometer, col. 8, lines 48-50). Tomiyama does not disclose a density of electrodes as claimed. Fong discloses a double layer capacitor structure (fig. 1) comprises electrodes have a density in range of 0.2 g/cm<sup>3</sup> to 2.0 g/cm<sup>3</sup> (see col. 12, lines 64-68). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected to the activated carbon powder having a density in range of 0.2 g/cm<sup>3</sup> to 2.0 g/cm<sup>3</sup> in order to decrease internal resistance of the double layer capacitor. The combination of Tomiyama and Fong do not disclose the electrodes have the specific resistance as claimed. However, providing a capacitor with an electrode resistance of 1-10 ohm cm is well known in the art. Selecting the exact value of the electrode resistance is based upon the design constraints imposed by the system in which the capacitor is designed to be used in. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the specific resistance of electrodes of Tomiyama and Fong to incorporate the specific resistance within 2-7 ohm cm based upon such design constraints because this is a known range of electrode resistance as taught by Andelman (col. 7, lines 21-23).

Regarding claims 9, 10, 14, and 15, Tomiyama discloses the binder that contains materials such as fluoro-polymer and polyvinylidene fluoride (e.g. col. 14, line 42-53).

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomiyama et al in view of Andelman. Tomiyama discloses all limitations as

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discussed above in claim 1, but Tomiyama does not disclose the electrodes have the specific resistance as claimed. However, providing a capacitor with an electrode resistance of 1-10 ohm cm is well known in the art. Selecting the exact valued of the electrode resistance is based upon the design constraints imposed by the system in which the capacitor id designed to be used in. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the specific resistance of electrodes of Tomiyama to incorporate the specific resistance within 2-7 ohm cm based upon such design constraints because this is a known range of electrode resistance as taught by Andelman (col. 7, lines 21-23).

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will

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the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Danny Nguyen whose telephone number is (571)-272-2054. The examiner can normally be reached on Mon to Fri 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN

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1/6/2005

BRIAN SIRCUS  
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